

**2016 DOE HYDROGEN and FUEL CELLS PROGRAM and VEHICLE TECHNOLOGIES OFFICE
ANNUAL MERIT REVIEW and PEER EVALUATION MEETING OVERALL SCHEDULE**

Monday June 6 - Washington Marriott Wardman Park Hotel

11:00 AM	Reviewer Orientation				
12:00 PM	Lunch (on your own)				
1:00 PM	Plenary Session: Guest Speakers, Overviews of the Hydrogen and Fuel Cells Program and Vehicle Technologies Office, and Awards				
3:00 PM	Break				
3:30 PM	Vehicle Technologies Analysis Overview		Production & Delivery Overview		
4:00 PM	Vehicle Systems Overview		Hydrogen Storage Overview		
4:30 PM	Materials Overview		Fuel Cells Overview		
5:00 PM	Electrochemical Energy Storage Overview		Manufacturing Overview		
5:30 PM	Reviewer Orientation				

Schedule as of: 3/8/2016

Tuesday June 7										Wednesday June 8										Thursday June 9																						
Session Rooms	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8	Session 9	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8	Session 9	Session 10																							
7:15 AM	Continental Breakfast									Continental Breakfast										Continental Breakfast																						
8:00 AM										ACE											FT		PM																			
8:30 AM	Electric Drive Tech. Overview					Tech. Validation Overview				ACE	EDT	ES	LM	VS	SA	PD	ST	FC		ACE	FT	ES	PM	VS	TI	H2 IN	ST	FC														
9:00 AM	Adv. Combust. Engine Overview					Market Transf. Overview				ACE	EDT	ES	LM	VS	SA	PD	ST	FC		ACE	FT	ES	PM	VS	TI	H2 IN	ST	FC														
9:30 AM	Fuel & Lubricant Tech. Overview					Syst. Analysis Overview				ACE	EDT	ES	LM	VS	SA	PD	ST	FC		ACE	FT	ES	PM	VS	TI	H2 IN	ST	FC														
10:00 AM	Technology Integration Overview					Saf., Cod. & Std. Overview				ACE	EDT	ES	LM	VS	SA	PD	ST	FC		ACE	FT	ES	PM	VS	TI	H2 IN	ST	FC														
10:30 AM	Break									Break										Break																						
11:00 AM	ACE	EDT	ES	LM	VS	TV	PD	SCS	FC	ACE	EDT	ES	LM	VS	SA	PD	ST	FC		ACE	FT	ES	PM	VS	TI	H2 IN	ST	FC														
11:30 AM	ACE	EDT	ES	LM	VS	TV	PD	SCS	FC	ACE	EDT	ES	LM	VS	SA	PD	ST	FC		ACE	FT	ES	PM	VS	TI	H2 IN	ST	FC														
12:00 PM	ACE	EDT	ES	LM	VS	TV	PD	SCS	FC	ACE	EDT	ES	LM	VS	SA	PD	ST	FC		ACE		ES	PM	VS	TI	H2 IN	ST	FC														
12:30 PM	Lunch and Brainstorming Session 12:30–1:45 PM									Lunch and Poster Session 12:30–1:45 PM										Lunch and Brainstorming Session 12:30–1:45 PM										Legend												
1:45 PM	ACE	EDT	ES	LM	VS	TV	PD	SCS	FC	ACE	FT	ES	LM	VS	SA	PD	ST	FC		ACE	FT	ES	PM	VS	TI	H2 IN	ST			MT												
2:15 PM	ACE	EDT	ES	LM	VS	TV	PD	SCS	FC	ACE	FT	ES	LM	VS	VAN	PD	ST	FC		ACE	FT	ES	PM	VS		H2 IN	ST			MT												
2:45 PM	ACE	EDT	ES	LM	VS	TV	PD	SCS	FC	ACE	FT	ES	LM	VS	VAN	PD	ST	FC		ACE	FT	ES	PM			H2 IN	ST			MT												
3:15 PM	ACE	EDT	ES	LM	VS	TV	PD	SCS	FC	ACE	FT	ES	MN	VS	VAN	PD	ST	FC		ACE	FT	ES	PM			H2 IN				MT												
3:45 PM	Break									Break										Break																						
4:15 PM	ACE	EDT	ES	LM	VS		PD	SCS	FC	ACE	FT	ES	MN	VS	VAN	PD	ST	FC		ACE	FT	ES	PM			H2 IN					MT											
4:45 PM	ACE	EDT	ES	LM	VS		PD	SCS	FC	ACE	FT	ES	MN	VS	VAN	PD	ST	FC		ACE	FT	ES	PM								MT											
5:15 PM	ACE	EDT	ES		VS		PD		FC	ACE		ES	MN	VS		PD	ST	FC		ACE	FT	ES																				
5:45 PM		EDT			VS		PD		FC	ACE			MN			PD		FC		ACE																						
	EVENING POSTER SESSION I (6:30–8:30 PM): Electric Drive Technologies; Electrochemical Storage Part I; Safety, Codes & Standards; Technology Validation; Vehicle Systems									LUNCH POSTER SESSION II (12:30–1:45 PM): Hydrogen Storage; Manufacturing; Vehicle Technologies Analysis EVENING POSTER SESSION III (6:30–8:30 PM): Hydrogen Production & Delivery; Fuel Cells; ARPA-E										EVENING POSTER SESSION IV (6:30–8:30 PM): Electrochemical Storage Part II; Market Transformation										VT Office ACE: Adv. Comb. Engine R&D ES: Electrochemical Storage EDT: Electric Drive Technology FT: Fuel & Lubricant Techn. LM: Light-Weight Materials PM: Propulsion Materials TI: Technology Integration VAN: VT Analysis VS: Vehicle Systems												
	H2&FC Program H2 IN: Hydrogen Infrastructure PD: Production & Delivery ST: Hydrogen Storage FC: Fuel Cells MN: Manufacturing R&D TV: Technology Validation SCS: Safety, Codes & Stand. MT: Market Transformation SA: Systems Analysis																																									

Tuesday, June 7 - Oral Presentations

Salon	Session 1	Session 2	Session 3
11:00 AM	ACE015; Jim Szybist; ORNL: Stretch Efficiency for Combustion Engines: Exploiting New Combustion Regimes	EDT032; Christopher Whaling; Synthesis Partners: North American Electric Traction Drive Supply Chain Analysis: Focus on Motors	ES014; Peter Faguy; DOE: Overview and Progress of Applied Battery Research (ABR) Activities
11:30 AM	ACE016; Scott Curran; ORNL: High Efficiency Clean Combustion in Multi-Cylinder Light-Duty Engines	EDT006; Tim Burress; ORNL: Benchmarking EV and HEV Technologies	ES228; Shabbir Ahmed; ANL: BatPaC Model Development
12:00 PM	ACE017; Kevin Edwards; ORNL: Accelerating Predictive Simulation of IC Engines with High Performance Computing	EDT015; Matt Kramer; Ames: Development of Radically Enhanced alnico Magnets (DREaM) for Traction Drive Motors	ES097; Ron Elder; USABC: Technology Development Advances in USABC Projects
12:30 PM LUNCH	Lunch and Brainstorming Session		
1:45 PM	ACE090; Brian Kaul; ORNL: High-Dilution Stoichiometric Gasoline Direct-Injection (SGDI) Combustion Control Development	EDT044; Josh Ley; UQM Technologies, Inc.: Unique Lanthide-Free Motor Construction	ES210; Jagat Singh; 3M: Advanced High Energy Li-Ion Cell for PHEV and EV Applications
2:15 PM	ACE077; Bill Partridge; ORNL: Cummins-ORNL\FEERC Combustion CRADA: Characterization & Reduction of Combustion Variations	EDT062; Tim Burress; ORNL: Non-Rare Earth Motor Development	ES211; Subramanian Venkatachala; Envia: High Energy Lithium Batteries for PHEV Applications
2:45 PM	ACE052; Todd Toops; ORNL: Neutron Imaging of Advanced Transportation Technologies	EDT045; Ayman El-Refaie; General Electric Global: Alternative High-Performance Motors with Non-Rare Earth Materials	ES212; Donghai Wang; Penn State: High Energy, Long Cycle Life Lithium-ion Batteries for EV Applications
3:15 PM	ACE014; David Carrington; LANL: 2015 KIVA-hpFE Development: A Robust and Accurate Engine Modeling Software	EDT064; Kevin Bennion; NREL: Electric Motor Thermal Management R&D	ES208; Khalil Amine; ANL: New High-Energy Electrochemical Couple for Automotive Applications
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	ACE012; Russell Whitesides; LLNL: Model Development and Analysis of Clean & Efficient Engine Combustion	EDT040; Zilai Zhao; General Motors: Next Generation Inverter	ES213; Michael Slater; Farasis: High Energy Density Li-ion Cells for EV's Based on Novel, High Voltage Cathode Material Systems
4:45 PM	ACE013; Bill Pitz; LLNL: Chemical Kinetic Models for Advanced Engine Combustion	PM054; Andrew Wereszczak; ORNL: Enabling Materials for High Temperature Power Electronics	ES209; Jane Rempel; TIAX: High Energy High Power Battery Exceeding PHEV-40 Requirements
5:15 PM	ACE076; Matthew McNenly; LLNL: Improved Solvers for Advanced Engine Combustion Simulation	EDT060; Dan Tan; GE Global Research: High Performance DC Bus Film Capacitor	ES030; Andrew Jansen; ANL : Cell Analysis, Modeling, and Prototyping (CAMP) Facility Research Activities
5:45 PM		EDT059; Angelo Yializis; Sigma Technologies International: High Temperature DC-Bus Capacitor Cost Reduction and Performance Improvements	

Tuesday, June 7 - Oral Presentations

Salon	Session 4	Session 5	Session 6
11:00 AM	LM084; Libby Berger; GM: Validation of Material Models for Crash Simulation of Automotive Carbon Fiber Composite Structures (VMM)	VS095; Keith Hardy; ANL: EV - Smart Grid Research & Interoperability Activities	TV019; Daniel Terlip; NREL: Hydrogen Component Validation
11:30 AM	LM101; Xuming Su; Ford: Integrated Computational Materials Engineering (ICME) Development of Carbon Fiber Composites for Lightweight Vehicles	VS096; Barney Carlson; INL: Wireless & Conductive Charging Testing to support Code & Standards	TV029; Salvador Aceves; LLNL: Performance and Durability Testing of Volumetrically Efficient Cryogenic Vessels and High Pressure Liquid Hydrogen Pump
12:00 PM	LM102; Venkat Aitharaju; GM: Development and Integration of Predictive Models for Manufacturing and Structural Performance of Carbon Fiber Composites in Automotive Applications	VS144; John Miller; SAE: SAE J2907 Motor Power Ratings Standards Support	TV030; Kevin Harrison; NREL: FCTO INTEGRATE Stack Test Bed & Grid Interoperability
12:30 PM LUNCH	Lunch and Brainstorming Session		
1:45 PM	LM103; Randy Lewis; Utah State University: Spider Silk MaSp1 and MaSp2 Proteins as Carbon Fiber Precursors	VS029; Jeremy Diez; Intertek: Advanced Vehicle Testing & Evaluation	TV001; Jennifer Kurtz; NREL: Fuel Cell Electric Vehicle Evaluation
2:15 PM	LM098; Tim Weihs; John Hopkins University: Brazing Dissimilar Metals with a Novel Composite Foil	VS021; Shawn Salisbury; INL: Idaho National Laboratory Testing of Advanced Technology Vehicles	TV008; Leslie Eudy; NREL: Fuel Cell Bus Evaluations
2:45 PM	LM105; Yuri Hovanski; PNNL: Friction Stir Scribe Joining of Al to Steel	VS030; Kevin Stutenberg; ANL: Advanced Technology Vehicle Lab Benchmarking (L1&L2)	TV031; Robert Hovsapien; INL: Dynamic Modeling and Validation of Electrolyzers in Real Time Grid Simulation
3:15 PM	LM087; Mahmood Haq; Michigan State University: Active, Tailorable Adhesives for Dissimilar Material Bonding, Repair and Assembly	VS001; Ken Kelly; NREL: Medium and Heavy-Duty Vehicle Field Evaluations	TV032; Ram Vijayagopal; ANL: Fuel Cell Truck Targets
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	LM097; Adrian Sabau; ORNL: Laser-Assisted Joining Process of Aluminum and Carbon Fiber Components	VS172; Tom Garetson; EAI: EV Everywhere Infrastructure Roadmap	
4:45 PM	LM090; Tony Mascarin; IBIS Associates: Technical Cost Modeling for Vehicle Lightweighting	VS163; Lucas Dos Santos Freire; PPG: Advanced Bus and Truck Radial Materials for Fuel Efficiency	
5:15 PM		VS085; Norm Anderson; The Goodyear Tire and Rubber Company: System for Automatically Maintaining Pressure in a Commercial Truck Tire	
5:45 PM		VS176; Georgios Polyzos; ORNL: Improved Tire Efficiency through Elastomeric Polymers Enhanced with Carbon-Based Nanostructured Materials	

Tuesday, June 7 - Oral Presentations

Salon	Session 7	Session 8	Session 9
11:00 AM	PD014; Amgad Elgowainy; ANL: Hydrogen Delivery Infrastructure Analysis	SCS010; Ethan Hecht; SNL: R&D for Safety, Codes and Standards: Hydrogen Behavior	FC107; Piotr Zelenay; LANL: Non-Precious Metal Fuel Cell Cathodes: Catalyst Development & Electrode Structure Design
11:30 AM	PD088; Zhili Feng; ORNL: Vessel Design and Fabrication Technology for Stationary High-Pressure Hydrogen Storage	SCS011; Katrina Groth; SNL: Hydrogen Behavior and Quantitative Risk Assessment	FC130; Alexey Serov; University of New Mexico: Development of non-PGM Catalysts for Hydrogen Oxidation Reaction in Alkaline Media
12:00 PM	PD109; Zhili Feng; ORNL: Steel Concrete Composite Vessel for 875 bar Stationary Hydrogen Storage	SCS007; Tommy Rockward; LANL: Hydrogen Fuel Quality	FC132; Sanjeev Mukerjee; Northeastern University: Innovative Non-PGM Catalysts for High-Temperature PEMFCs
12:30 PM LUNCH	Lunch and Brainstorming Session		
1:45 PM	PD110; Ashok Saxena; Wiretough Cylinders: Low Cost Hydrogen Storage at 875 Bar Using Steel Liner and Steel Wire Wrap	SCS021; Bill Buttner; NREL: NREL Hydrogen Sensor Testing Laboratory	FC140; Vojislav Stamenkovic; ANL: Tailored High Performance Low-PGM Cathode Catalysts
2:15 PM	PD025; Joe Ronevich; SNL: Hydrogen Embrittlement of Structural Steels	SCS019; Nick Barilo; PNNL: Hydrogen Safety Panel, Safety Knowledge Tools and First Responder Training Resources	FC141; Radoslav Adzic; BNL: Platinum Monolayer Electrocatalysts
2:45 PM	PD126; Kenneth Kriha; Gas Technology Institute: Compressor-less Hydrogen Refueling Station Using Thermal Compression	SCS001; Carl Rivkin; NREL: National Codes and Standards Deployment and Outreach	FC142; Bryan Pivovar; NREL: Extended Surface Electrocatalyst Development
3:15 PM	PD108; Eugene Broerman; SWRI: Hydrogen Compression Application of the Linear Motor Reciprocating Compressor (LMRC)	SCS022; Karen Quackenbush; Fuel Cell & Hydrogen Energy Association: Fuel Cell & Hydrogen Energy Association Codes and Standards Support	FC143; Andrew Steinbach; 3M: Highly Active, Durable, and Ultra-low PGM NSTF Thin Film ORR Catalysts and Supports
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	PD132; Shannan O'Shaughnessy; GVD: Advanced Barrier Coatings for Harsh Environments	SCS005; Chris San Marchi; SNL: R&D for Safety, Codes and Standards: Materials and Components Compatibility	FC144; Anu Kongkanand; GM: Highly-Accessible Catalysts for Durable High-Power Performance
4:45 PM	PD038; Pin-Ching Maness; NREL: Fermentation and Electrohydrogenic Approaches to Hydrogen Production	SCS026; Kriston Brooks; PNNL: Hydrogen Compatibility of Polymers	FC145; Vijay Ramani; IIT: Corrosion-Resistant Non-Carbon Electrocatalyst Supports for PEFCs
5:15 PM	PD127; Y-H Percival Zhang; Virginia Tech: Sweet Hydrogen: High-Yield Production of Hydrogen from Biomass Sugars Catalyzed by in vitro Synthetic Biosystems		FC109; Michael Yandrasits; 3M: New Fuel Cell Membranes with Improved Durability & Performance
5:45 PM	PD129; Hong Liu; Oregon State University: Novel Hybrid Microbial Electrochemical System for Efficient Hydrogen Generation from Biomass		FC110; Andrew Herring; Colorado School of Mines: Advanced Hybrid Membranes for Next Generation PEMFC Automotive Applications

Tuesday, June 7 - Poster Presentations

6:30-8:30 PM

Electric Drive Technologies
EDT049; Zhenxian Liang; ORNL: Advanced Packaging Technologies and Designs
EDT054; Gui-Jia Su; ORNL: Innovative Technologies for Converters and Chargers
EDT070; Xuhui Feng; NREL: Thermal Performance Benchmarking
EDT071; Lixin Tang; ORNL: Multi-Speed Range Electric Motor R&D
Electrochemical Storage Part I
ES055; Clare Grey; U. of Cambridge: NMR and Pulse Field Gradient Studies of SEI and Electrode Structure
ES201; Ira Bloom; ANL: Electrochemical Performance Testing
ES202; Matt Shirk; INL: INL Electrochemical Performance Testing
ES203; Leigh Anna; SNL: Battery Safety Testing
ES204; Matthew Keyser; NREL: Battery Thermal Characterization
ES237; Robert Privette; XG Sciences: Low-cost, High Energy Si/Graphene Anodes for Li-Ion Batteries
ES238; Pu Zhang; Navitas Systems: Low-Cost, High-Capacity Lithium Ion Batteries through Modified Surface and Microstructure
ES239; David King; Pneumaticoat Technologies: Scale-Up of Low-Cost Encapsulation Technologies for High Capacity and High Voltage Electrode Powders
ES240; Cary Hayner; Sinode Systems: High Energy Anode Material Development for Li-Ion Batteries
ES241; Ionel Stefan; Amprius: USABC EV Project: High Energy Li-Ion Battery
ES288; Christopher Lang; Physical Sciences Inc.: Construction of High Energy Density Batteries
ES247; Herman Lopez; Envia Systems: High Energy Lithium Batteries for Electric Vehicles
ES248; John Busbee; Xerion Advanced Battery Corporation: Development of a PHEV Battery
ES249; Mohamed Alamgir; LG Chem Power: A 12V Start-Stop Li Polymer Battery Pack
ES251; Jeff Kim; Maxwell: Development of Advanced High-Performance Batteries for 12V Start Stop Vehicle Applications
ES278; Eric Wachsman; U. of Maryland: Overcoming Interfacial Impedance in Solid-State Batteries
ES289; Weston Wood; Entek: Advanced Polyolefin Separators for Li-Ion Batteries Used in Vehicle Applications
ES290; Surya Moganty; NOHMs Technologies: Hybrid Electrolytes for PHEV Applications
ES291; Ian O'Connor; Saft: 12V Start Stop System
ES292; Kristin Meyers; Soulbrain: Electrolyte
ES293; Yan Wang; WPI: Recycling
ES294; Ahmad Pesaran; NREL: Advanced Tool for Computer Aided Battery Engineering
ES295; John Turner; ORNL: Consortium for Advanced Battery Simulation
ES296; James Marcicki; Ford: CAEBAT
BESVT021; Janna Maranas; Penn State: Superionic Conduction using Ion Aggregates
Safety, Codes & Standards
SCS002; Robert Burgess; NREL: Component Standard Research & Development
Technology Validation
TV021; Chris Ainscough; NREL: Material Handling Equipment Data Collection and Analysis
TV020; Larry Moulthrop; Proton OnSite: Validation of an Advanced High Pressure PEM Electrolyzer and Composite Hydrogen Storage, with Data Reporting, for SunHydro Stations
TV025; Ted Barnes; GTI: Performance Evaluation of Delivered Hydrogen Fueling Stations
TV023; Michael Kashuba; CARB: Newport Beach Hydrogen Station Key Performance Indicators
TV028; John Aliquo; Air Products and Chemicals, Inc.: Advanced Hydrogen Fueling Station Supply
TV024; David Blekman; CSULA: CSULA Hydrogen Refueling Facility Performance Evaluation and Optimization
TV016; Genevieve Saur; NREL: Stationary Fuel Cell Evaluation
TV034; Jason Hanlin; Center for Transportation and the Environment: Fuel Cell Hybrid Electric Walk-in Van Deployment
TV035; Thomas Griffin; FedEx: FedEx Express Hydrogen Fuel Cell Extended-range Battery Electric Vehicles
TV036; Spencer Quong; Electricore: Design, Deployment, and Validation of Advanced Low-cost Mobile Hydrogen Refuelers
Vehicles Systems
VS177; Benjamin Kroposki; NREL, FOUNDATIONAL: Establishment of Grid Modernization Laboratory Consortium – Testing Network
VS178; Benjamin Kroposki; NREL, FOUNDATIONAL: Definitions, Standards and Test Procedures for Grid Services from Devices
VS179; Bryan Hannegan; NREL, FOUNDATIONAL: Technical Support to the New York State Reforming the Energy Vision (REV) Initiative
VS180; Jakob Stoustrup; PNNL, FOUNDATIONAL: Control Theory
VS181; Richard Pratt; PNNL: VTO Vehicle to Building Integration Pathway
VS182; John Smart; INL: VTO Systems Research Supporting Standards and Interoperability
VS183; Samveg Saxena; LBNL: VTO Modeling & Controls Software Tools to Support V2G Integration
VS184; Ken Rohde; INL: VTO Diagnostic Security Modules for Electric Vehicle to Building Integration

Wednesday, June 8 - Oral Presentations

Salon	Session 1	Session 2	Session 3
8:00 AM	ACE001; Mark Musculus; SNL: Heavy-Duty Low-Temperature and Diesel Combustion & Heavy-Duty Combustion Modeling		
8:30 AM	ACE002; Stephen Busch; SNL: Light-Duty Diesel Combustion	EDT073; Jeffrey Casady; Cree: 88 Kilowatt Automotive Inverter with New 900 Volt Silicon Carbide MOSFET Technology	ES028; Wenquan Lu; ANL: Materials Benchmarking Activities For CAMP Facility
9:00 AM	ACE004; John Dec; SNL: Low-Temperature Gasoline Combustion (LTGC) Engine Research	EDT053; Madhu Chinthavali; ORNL: Electric Drive Inverter R&D	ES253; Jason Croy; ANL: Enabling High-Energy, High-Voltage Li-Ion Cells for Transportation Applications: Project Overview
9:30 AM	ACE005; Lyle Pickett; SNL: Spray Combustion Cross-Cut Engine Research	EDT058; Kraig Olejniczak; APEI Inc.: Advanced Low-Cost SiC and GaN Wide Bandgap Inverters for Under-the-Hood Electric Vehicle Traction Drives	ES254; John Vaughey; ANL: Enabling High-Energy, High-Voltage Li-Ion Cells for Transportation Applications: Materials Characterization
10:00 AM	ACE006; Isaac Ekoto; SNL: Automotive Low Temperature Gasoline Combustion Engine Research	EDT068; Nance Ericson; ORNL: Gate Driver Optimization for WBG Applications	ES252; Daniel Abraham; ANL: Enabling High-Energy, High-Voltage Li-Ion Cells for Transportation Applications: Modeling and Analysis
10:30 AM	BREAK	BREAK	BREAK
11:00 AM	ACE007; Joe Oefelein; SNL: Large Eddy Simulation (LES) Applied to Advanced Engine Combustion Research	EDT067; Charles Zhu; Delta Products Corporation: High-Efficiency High-Density GaN-Based 6.6kW Bidirectional On-Board Charger for PEVs	ES168; Krzysztof Pupek; ANL: Process R&D and Scale-Up of Critical Battery Materials
11:30 AM	ACE075; Sibendu Som; ANL: Advancements in Fuel Spray and Combustion Modeling with High Performance Computing Resources	EDT069; Gilbert Moreno; NREL: Power Electronics Thermal Management R&D	ES165; Debasish Mohanty; ORNL: Electrode Coating Defect Analysis and Processing NDE for High-Energy Lithium-Ion Batteries
12:00 PM	ACE010; Christopher Powell; ANL: Fuel Injection and Spray Research Using X-Ray Diagnostics	EDT063; Doug DeVoto; NREL: Performance and Reliability of Bonded Interfaces for High-Temperature Packaging	ES166; Ira Bloom; ANL: Post-Test Analysis of Lithium-Ion Battery Materials at Argonne National Laboratory
12:30 PM LUNCH	Lunch and Poster Session		
1:45 PM	ACE011; Steve Ciatti; ANL: Use of Low Cetane Fuel to Enable Low Temperature Combustion	FT033; Stephen Hsu; George Washington University: Integrated Friction Reduction Technology	ES207; David Wood; ORNL: IR Thermography as a Non-Destructive Evaluation (NDE) Tool for Lithium-Ion Battery Manufacturing
2:15 PM	ACE054; Scott Goldsborough; ANL: RCM Studies to Enable Gasoline-Relevant Low Temperature Combustion	FT034; B Zhao; University of Tennessee: Hybrid Ionic-Nano-Additives for Engine Lubrication	ES164; Jianlim Li; ORNL: Thick Low-Cost, High-Power Lithium-Ion Electrodes via Aqueous Processing
2:45 PM	ACE084; Riccardo Scarcelli; ANL: High Efficiency GDI Engine Research, with Emphasis on Ignition Systems	FT014; Jun Qu; ORNL: ORNL Ionic Liquids	ES261; Dennis Dees; ANL: Next Generation Anodes for Lithium-ion Batteries: Overview
3:15 PM	ACE096; Chia-Fon Lee; U. of Illinois: Micro-Jet Enhanced Ignition with a Variable Orifice Fuel Injector for High Efficiency	FT012; George Fenske; ANL: Argonne Lubes Research	ES262; Robert Kostecki; LBNL: Next-Generation Anode Materials--A Multi-Lab Consortium, Model Systems
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	ACE022; Josh Pihl; ORNL: Joint Development and Coordination of Emissions Control Data and Models (CLEERS Analysis and Coordination)	FT035; Lelia Cosimbescu; PNNL: Hyperbranched Alkanes for Lubes	ES167; Greg Krumdick; ANL: Process Development and Scale-Up of Advanced Active Battery Materials
4:45 PM	ACE023; Yong Wang; PNNL: CLEERS: Aftertreatment Modeling and Analysis	FT036; John Storey; ORNL: Combustion and Emission Effects of Lubricants	ES244; Alex Jacobs; Sila Nanotechnologies: Low Cost, High Capacity Non-Intercalation Chemistry Automotive Cells
5:15 PM	ACE078; Janos Szanyi; PNNL: Thermally Stable Ultra-Low Temperature Oxidation Catalysts		ES242; Farshid Roumi; Parthian Energy: A Disruptive Concept for a Whole Family of New Battery Systems
5:45 PM	ACE026; Feng Gao; PNNL: Enhanced High and Low Temperature Performance of NOx Reduction Materials		

Wednesday, June 8 - Oral Presentations

Salon	Session 4	Session 5	Session 6
8:30 AM	LM099; Yuri Hovanski; PNNL: High Strength, Dissimilar Alloy Aluminum Tailor-Welded Blanks	VS103; Omer Onar; ORNL: Wireless Charging of Electric Vehicles	SA044; Aymeric Rousseau; ANL: Sensitivity Analysis of Fuel Cell System Peak Efficiency on Fuel Consumption and Cost
9:00 AM	LM100; Steve Logan; Fiat Chrysler Automobiles US LLC: Upset Protrusion Joining Techniques For Joining Dissimilar Metals	VS102; Rakan Chabaan; Hyundai: High Efficiency, Low EMI and Positioning Tolerant Wireless Charging of EVs	SA060; Marc Melaina; NREL: Evaluation of Technology Status Compared to Program Targets
9:30 AM	LM086; Glenn Daehn; Ohio State University: Collision Welding of Dissimilar Materials by Vaporizing Foil Actuator	VS186; James Li; ORNL: Evaluation of Dynamic Wireless Charging Demand	SA055; Rebecca Levinson; SNL: Hydrogen Analysis with the Sandia ParaChoice Model
10:00 AM	LM104; Zhili Feng; ORNL: Solid-State Body-in-White Spot Joining of Al to AHSS at Prototype Scale	VS155; Jeff Gonder; NREL: Analyzing Real-World Light Duty Vehicle Efficiency Benefits	SA058; David Greene; U of Tennessee: Analysis of Incentives and Policies Impacts on Market Pull
10:30 AM	BREAK	BREAK	BREAK
11:00 AM	LM035; Steve Derezinski; INFINIUM, Inc.: Scale-Up of Magnesium Production by Fully Stabilized Zirconia Electrolysis	VS075; Jason Lustbader; NREL: CoolCab Test and Evaluation and CoolCalc HVAC Tool Development	SA057; Amgad Elgowainy; ANL: Life Cycle Analysis of Emerging Hydrogen Production Technologies
11:30 AM	LM080; Lou Hector; USAMP: Integrated Computational Materials Engineering Approach to Development of Lightweight 3GAHSS Vehicle Assembly	VS185; Aymeric Rousseau; ANL: Evaluation of VTO Benefits on Real World Driving Cycles using Transportation System Modeling	SA039; Amgad Elgowainy; ANL: Life-Cycle Analysis of Water Consumption for Hydrogen Production
12:00 PM	LM106; Xin Sun; PNNL: Enhanced Sheared Edge Stretchability of Advanced High Strength/Ultra-High Strength Steels	VS134; Jason Lustbader; NREL: Vehicle Thermal System Model Development in Simulink	SA059; Marc Melaina; NREL: Sustainability Analysis
12:30 PM LUNCH	Lunch and Poster Session		
1:45 PM	LM107; Xin Sun; PNNL: Optimizing Heat Treatment Parameters for 3rd Generation AHSS Using an Integrated Experimental-Computational Framework	VS136; Mingyu Wang; Mahle Behr USA, LLC: ePATHS - electrical PCM Assisted Thermal Heating System	SA035; Marianne Mintz; ANL: Study of Employment Impacts for Hydrogen and Fuel Cell Technologies
2:15 PM	LM089; Robert Hilty; Xtallic Corporation: High-Strength Electroformed Nanostructured Aluminum for Lightweight Automotive Applications	VS135; Nicos Agathocleous; Hanon Systems: Advanced Climate Systems for EV Extended Range (ACSforEVER)	VAN999; Jake Ward; DOE: Overview of VTO Analysis Program
2:45 PM	LM108; Russell Long; ALCOA: Development of Low Cost, High Strength Automotive Aluminum Sheet	VS157; Sourav Chowdhury; Mahle Behr USA, LLC: Unitary Thermal Energy Management for Propulsion Range Augmentation (UTEMPRA)	VAN016; Stacy Davis; ORNL: Transportation Energy Data Book Program
3:15 PM	MN001; Michael Ulsh; NREL: Fuel Cell MEA Manufacturing R&D	VS165; Cory Kreutzer; NREL: Design and Implementation of a Thermal Load Reduction System in a Hyundai PHEV	VAN017; Michael Wang; ANL: ANL Vehicle Technologies Analysis Modeling Program
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	MN012; Pat Valente; Ohio Fuel Cell Coalition: Clean Energy Supply Chain and Manufacturing Competitiveness Analysis for Hydrogen and Fuel Cell Technologies	VS006; Kambiz Salari; LLNL: DOE's Effort to Improve Heavy Vehicle Fuel Efficiency through Improved Aerodynamics	VAN018; Tom Stephens; ANL: VTO Program Benefits Analysis
4:45 PM	MN013; Alleyn Harned; Virginia Clean Cities at James Madison University: Fuel Cell and Hydrogen Opportunity Center	VS132; Tanju Sofu; ANL: Combined Aero and Underhood Thermal Analysis for Heavy Duty Trucks	VAN023; Aymeric Rousseau; ANL: Model-Based Systems Engineering/Autonomie
5:15 PM	MN014; Patrick Fullenkamp; GLWN – Westside Industrial Retention & Expansion Network: U.S. Clean Energy Hydrogen and Fuel Cell Technologies: A Competitiveness Analysis	VS173; Huei Peng; University of Michigan: Energy Impact of Connected and Automated Vehicles	
5:45 PM	MN017; Ahmad Mayyas; NREL: CEMAC - A Case Study of Hydrogen Refueling Station Manufacturing Competitiveness Analysis		

Wednesday, June 8 - Oral Presentations

Salon	Session 7	Session 8	Session 9
8:30 AM	PD130; Christopher Ainscough; NREL: Improved Hydrogen Liquefaction through Heisenberg Vortex Separation of para and ortho-hydrogen	ST127; Mark Allendorf; SNL: HyMARC - Overview	FC116; Chao-yi Yuh; FuelCell Energy, Inc.: Smart Matrix Development for Direct Carbonate Fuel Cell
9:00 AM	PD131; Jamie Holladay; PNNL: Magnetocaloric Hydrogen Liquefaction	ST129; Brandon Wood; LLNL: HyMARC - technical	FC117; Hui Xu; Giner, Inc.: Ionomer Dispersion Impact on PEM Fuel Cell and Electrolyzer Durability
9:30 AM	PD102; Brian James; Strategic Analysis, Inc.: Analysis of Advanced H ₂ Production Pathways	ST130; David Prendergast; LBNL: HyMARC - technical	FC146; Yu Seung Kim; LANL: Advanced Materials for Fully-Integrated MEAs in AEMFCs
10:00 AM	PD114; Al Weimer; U of Colorado: Flowing Particle Bed Solarthermal RedOx Process to Split Water	ST128; Mark Allendorf; SNL: HyMARC - technical	FC147; Bryan Pivovar; NREL: Advanced Ionomers & MEAs for Alkaline Membrane Fuel Cells
10:30 AM	BREAK	BREAK	BREAK
11:00 AM	PD096; Hector Colon-Mercado; SRNL: Electrolyzer Component Development for the HyS Thermochemical Cycle	ST131; Thomas Gennett; NREL: Hydrogen Storage Characterization Research Efforts	FC131; Yushan Yan; University of Delaware: Highly Stable Anion-Exchange Membranes for High-Voltage Redox-Flow Batteries
11:30 AM	PD113; Tony McDaniel; SNL: High Efficiency Solar Thermochemical Reactor for Hydrogen Production	ST132; Tom Autrey; PNNL: Hydrogen Storage Characterization Research Efforts	FC081; Jennifer Kurtz; NREL: Fuel Cell Technology Status: Degradation
12:00 PM	PD115; Todd Deutsch; NREL: High-Efficiency Tandem Absorbers for Economical Solar Hydrogen Production	ST133; Jeffrey Long; LBNL: Hydrogen Storage Characterization Research Efforts	FC135; Rod Borup; LANL: FC-PAD Consortium Overview
12:30 PM LUNCH	Lunch and Poster Session		
1:45 PM	PD116; Nicolas Gaillard; U of Hawaii: Wide Bandgap Chalcopyrite Photoelectrodes for Direct Solar Water Splitting	ST118; Brandon Wood; LLNL: Improving the Kinetics and Thermodynamics of Mg(BH ₄) ₂ for Hydrogen Storage	FC136; Rod Borup; LANL: FC-PAD Thrust 1 - Electrocatalysts and Supports
2:15 PM	PD125; Shane Ardo; University of California, Irvine: Tandem Particle-Slurry Batch Reactors for Solar Water Splitting	ST119; Vitalij Pecharsky; Ames Laboratory: High-capacity Hydrogen Storage Systems via Mechanochemistry	FC137; Rod Borup; LANL: FC-PAD Thrust 2 - Electrode Layers
2:45 PM	PD031; Mike Peters; NREL: Renewable Electrolysis Integrated System Development and Testing	ST120; Brent Fultz; California Institute of Technology: Design and Synthesis of Materials with High Capacities for Hydrogen Physisorption	FC138; Rod Borup; LANL: FC-PAD Thrust 3 - Ionomer, GDLs, Bipolar Plates, Interfaces
3:15 PM	PD103; Hui Xu; Giner Electrochemical Systems: High-Performance, Long-Lifetime Catalysts for Proton Exchange Membrane Electrolysis	ST121; Hong-Cai (Joe) Zhou; Texas A&M University: High-Capacity and Low-Cost Hydrogen-Storage Sorbents for Automotive Applications	FC139; Rod Borup; LANL: FC-PAD Thrust 4, 5, 6 - Modeling, Evaluation, Characterization
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	PD123; Katherine Ayers; Proton OnSite: High Performance Platinum Group Metal Free Membrane Electrode Assemblies Through Control of Interfacial Processes	ST122; Don Siegel; University of Michigan: Hydrogen Adsorbents with High Volumetric Density: New Materials and System Projections	FC020; Karren More; ORNL: Characterization of Fuel Cell Materials
4:45 PM	PD124; Randy Petri; Versa Power Systems: Solid Oxide Based Electrolysis and Stack Technology with Ultra-High Electrolysis Current Density and Efficiency	ST063; Ragaiy Zidan; SRNL: Reversible Formation of Alane	FC021; David Jacobson; NIST: Neutron Imaging Study of the Water Transport in Operating Fuel Cells
5:15 PM	PD112; Fred Jahnke; FuelCell Energy, Inc.: Reformer-Electrolyzer-Purifier (REP) for Production of Hydrogen	ST116; Robert Wilson; Ardica: Low-Cost a-Alane for Hydrogen Storage	FC104; Andrew Steinbach; 3M: High Performance, Durable, Low Cost Membrane Electrode Assemblies for Transportation Applications
5:45 PM	PD111; Wei Liu; PNNL: Monolithic Piston-Type Reactor for Hydrogen Production through Rapid Swing of Reforming/Combustion Reactions		FC106; Deborah Myers; ANL: Rationally Designed Catalyst Layers for PEMFC Performance Optimization

Wednesday, June 8 - Poster Presentations

12:30-1:45 PM

Hydrogen Storage
ST093; Robert Norris; ORNL: Melt Processable PAN Precursor for High Strength, Low-Cost Carbon Fibers
ST014; Phil Parilla; NREL: Hydrogen Sorbent Measurement Qualification and Characterization
ST110; Andrea Haight; Composite Technology Development: Optimizing the Cost and Performance of Composite Cylinders for H2 Storage using a Graded Construction
ST128a; Mark Allendorf; SNL: HyMARC - technical
ST129a; Brandon Wood; LLNL: HyMARC - technical
ST130a; Urban Jeffery; LBNL: HyMARC - technical
ST131a; Thomas Gennett; NREL: Hydrogen Storage Characterization Research Efforts
ST134; Ted Motyka; SRNL: Investigation of Metal and Chemical Hydrides for Hydrogen Storage in Novel Fuel Cell Systems
Manufacturing
MN015; Graham Ostrander; Automated Dynamics: Continuous Fiber Composite Electrofusion Couplers
MN016; Paul Yelvington; Mainstream: Cross-Polarized Near-UV for Inline Quality Control of PEM Materials
Vehicle Technologies Analysis
VAN019; Rebecca Levinson; SNL: ParaChoice Model
VAN020; Tom Stephens; ANL: Applied Analysis of Connected and Automated Vehicles
VAN021; Zhenhong Lin; ORNL: Vehicle Choice Modeling Program
VAN022; Aymeric Rousseau; ANL: Connected and Automated Vehicles - Modeling and Simulation

6:30-8:30 PM

Hydrogen Production & Delivery
PD117; Cortney Mittelsteadt; Giner Electrochemical Systems, LLC: High Temperature, High Pressure Electrolysis
PD118; Yanfa Yan; U of Toledo: New Metal Oxides for Efficient Hydrogen Production via Solar Water Splitting
PD119; Tom Jaramillo; Stanford University: NSF/DOE Solar Hydrogen Fuel: Engineering Surfaces, Interfaces, and Bulk Materials for Unassisted Solar Photoelectrochemical (PEC) Water Splitting
PD120; Charles Musgrave; U of Colorado at Boulder: Accelerated Discovery of Advanced RedOx Materials for STWS to Produce Renewable Hydrogen
PD121; G. Charles Dismukes; Rutgers University: Tunable Photoanode-Photocathode-Catalyst Interface Systems for Efficient Solar Water Splitting
PD128; Jeff Serfass; Hydrogen Education Foundation: 2014 – 2016 H2 Refuel H-Prize
Fuel Cells
FC105; C.H. Wang; TreadStone Technologies, Inc.: Novel Structured Metal Bipolar Plates for Low Cost Manufacturing
FC052; Tommy Rockward; LANL: Technical Assistance to Developers
FC149; Adam Weber; LBNL: PECASE: Multiscale Modeling of Fuel Cell Membranes
FC150; Cortney Mittelsteadt; Giner Inc.: High Charge Density Hydrocarbon-Based PEMs
FC151; Hongxing Hu; Amsen Technologies LLC: Low-Cost Proton Conducting Membranes for PEM Fuel Cells
FC152; William Harrison; Nanosonic Inc.: Novel Hydrocarbon Ionomers for Durable Proton Exchange Membranes
FC153; Runqing Ou; NEI Corporation: Novel Nanocomposite Polymer Electrolyte Membranes for Fuel Cells
FC154; Paul Matter; pH Matter, LLC: Regenerative Fuel Cell System (SBIR II)
ARPA-E
ARPAE16; Ryan O'Hayre; Colorado School of Mines: Low-Cost Intermediate-Temperature Fuel-Flexible Protonic-Ceramic Fuel Cell and Stack
ARPAE17; Meilin Liu; Georgia Tech: A Novel Intermediate-Temperature Fuel Cell Tailored for Efficient Utilization of Methane
ARPAE18; Tom Zawodzinski; ORNL/UT-Knoxville: Nanocomposite Electrodes for a Solid Acid Fuel Cell Stack Operating on Reformate
ARPAE19; Bryan Blackburn; Redox Power Systems: Low Temperature Solid Oxide Fuel Cells for Transformational Energy Conversion
ARPAE20; Calum Chisholm; SAFCell: Solid Acid Fuel Cell Stack for Distributed Generation Applications
ARPAE21; Yunfeng Lu; UCLA: Fuel Cells with Dynamic Response Capability Based on Energy Storage Electrodes with Catalytic Function
ARPAE22; Kevin Huang; U of South Carolina: A Novel Intermediate-temperature Bifunctional Ceramic Fuel Cell Energy System
ARPAE23; Dave Tew; UTRC: Development of an Intermediate Temperature Metal Supported Proton Conducting Solid Oxide Fuel Cell Stack
ARPAE24; Ted Krause; ANL: Intermediate Temperature Hybrid Fuel Cell System for the Conversion of Natural to Electricity and Liquid Fuels
ARPAE25; Carl Willman; FuelCell Energy: Dual Mode Intermediate Temperature Fuel Cell: Liquid Fuels and Electricity
ARPAE26; Greg Tao; MSRI: Intermediate-Temperature Electrogenative Cells for Flexible Cogeneration of Power and Liquid Fuel
ARPAE27; S. Elangovan; Ceramtec: Intermediate Temperature Proton Conducting Fuel Cells for Transportation Applications

Thursday, June 9 - Oral Presentations

Salon	Session 1	Session 2	Session 3
8:00 AM		FT037; John Farrell; NREL: Co-Optimization of Fuels and Engines Overview	
8:30 AM	ACE027; Abhijeet Karkamkar; PNNL: Next Generation SCR-Dosing System Investigation	FT038; Paul Miles; SNL: Co-Optimization of Fuels and Engines--Advanced Engine Development	ES243; John Arnold; Miltec UV International: Dramatically Improve the Safety Performance of Li Ion Battery Separators and Reduce the Manufacturing Cost Using Ultraviolet Curing and High Precision Coating Technologies
9:00 AM	ACE056; Mark Stewart; PNNL: Fuel-Neutral Studies of Particulate Matter Transport Emissions		ES246; Iftikhar Ahmad; Lambda Technologies: Advanced Drying Process for Lower Manufacturing Cost of Electrodes
9:30 AM	ACE024; Hee Je Seong; ANL: Particulate Emissions Control by Advanced Filtration Systems for GDI Engines	FT039; Jim Szybist; ORNL: Co-Optimization of Fuels and Engines--Fuel Properties	ES245; Billy Woodford; 24M Technologies: Low Cost, Structurally Advanced Novel Electrode and Cell Manufacturing
10:00 AM	ACE033; Jim Parks; ORNL: Emissions Control for Lean Gasoline Engines		ES263; Stuart Hellring; PPG: Electrodeposition for Low-Cost, Water-Based Electrode Manufacturing
10:30 AM	BREAK	BREAK	BREAK
11:00 AM	ACE085; Todd Toops; ORNL: Low Temperature Emission Control to Enable Fuel-Efficient Engine Commercialization	FT040; Matt McNeenly; LLNL: Co-Optimization of Fuels and Engines--Simulation Toolkit	ES264; Peter Pintauro; Vanderbilt: Li-Ion Battery Anodes from Electrospun Nanoparticle/Conducting Polymer Nanofibers
11:30 AM	ACE032; Bill Partridge; ORNL: Cummins-ORNL\FEERC Emissions CRADA: NOx Control & Measurement Technology for Heavy-Duty Diesel Engines, Self-Diagnosing SmartCatalyst Systems		ES265; John Arnold; Miltec UV International: UV Curable Binder Technology to Reduce Manufacturing Cost and Improve Performance of LiB Electrodes
12:00 PM	ACE095; Pu-Xian Gao; U. Conn: Metal Oxide Nano-Array Catalysts for Low Temperature Diesel Oxidation		ES266; Corie Cobb; PARC: Co-Extrusion (CoEx for Cost Reduction of Advanced High-Energy-and-Power Battery Electrode Manufacturing
12:30 PM LUNCH	Lunch and Brainstorming Session		
1:45 PM	ACE094; Keith Confer; Delphi Powertrain: Ultra Efficient Light Duty Powertrain with Gasoline Low Temperature Combustion	FT000; Kevin Stork; DOE: Overview of Fuels & Lubricants Program	ES267; Peter Aurora; Navitas Systems: Commercially Scalable Process to Fabricate Porous Silicon
2:15 PM	ACE093; David Sczomak; General Motors: Lean Miller Cycle System Development for Light-Duty Vehicles	FT041; Jim Kerekes; Clean Air Power: Dual-Fuel Technology Development for Heavy-Duty	ES268; Aaron Feaver; Group14: Low Cost Manufacturing of Advanced Silicon-Based Anode Materials
2:45 PM	ACE092; Charles Mendler; Envera LLC: High Efficiency VCR Engine with Variable Valve Actuation and New Supercharging Technology	FT042; Andre Boehman; University of Michigan: Utilizing Alternative Fuel Ignition Properties	ES269; Yangchuan (Chad) Xing; University of Missouri: An Integrated Flame Spray Process for Low Cost Production of Battery Materials
3:15 PM	ACE089; Alexander Sappok; Filter Sensing Technologies, Inc.: Development of Radio Frequency Diesel Particulate Filter Sensor and Controls for Advanced Low-Pressure Drop Systems to Reduce Engine Fuel Consumption	FT043; Lyle Kocher; Cummins: E85 Project	ES250; Ionel Stefan; Amprius: A Commercially Scalable Process for Silicon Anode Prelithiation
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	ACE097; Swami Subramanian; Eaton Corp.: Affordable Rankine Cycle (ARC) Waste Heat Recovery for Heavy Duty Trucks	FT044; Scott Sluder; ORNL: GEFORCE CRADA	ES270; Joseph Poshusta; Coorstek: Advanced Manufacturing Process for Next Generation Electrolytes and Salts
4:45 PM	ACE098; Lyle E. Kocher; Cummins: Cummins 55% Engine Efficiency Project	FT045; Scott Goldsborough; ANL: GDI Metrics	ES271; Peng Du; Silatronix: New Advanced Stable Electrolytes for High Voltage Electrochemical Energy Storage
5:15 PM	ACE060; John Gible; Volvo: Volvo SuperTruck - Powertrain Technologies for Efficiency Improvement	FT046; Thomas Wallner; ANL: Dual Fuel DI-NG, PFI Gasoline	ES108; Tien Duong; DOE: Overview and Progress of the Advanced Battery Materials Research (BMR) Program
5:45 PM	ACE059; Russ Zukouski; Navistar International Corp.: SuperTruck – Development and Demonstration of a Fuel-Efficient Class 8 Tractor & Trailer, Engine Systems		

Thursday, June 9 - Oral Presentations

Salon	Session 4	Session 5	Session 6
8:00 AM	PM000; Jerry Gibbs; DOE: Overview of VTO Material Technologies		
8:30 AM	PM004; Glenn Grant; PNNL: Novel Manufacturing Technologies for High Power Induction and Permanent Magnet Electric Motors	VS175; Steve Gravante; Ricardo: Methods to Measure, Predict, and Relate Friction, Wear, and Fuel Economy	TI001; Dennis Smith; DOE: Clean Cities Overview
9:00 AM	PM057; Charles Finney; ORNL: Applied Integrated Computational Materials Engineering (ICME) for New Propulsion Materials	VS161; Bulent Chavdar; Eaton: Multi-Speed Transmission for Commercial Delivery Medium Duty Plug-In Electric Drive Vehicles	TI064; Lizabeth Ardisana; ASG Renaissance: Plug-In Hybrid Electric Vehicle Demonstration Program and Social Media Campaign
9:30 AM	PM053; G. Muralidharan; ORNL: High Temperature Materials for High Efficiency Engines	VS064; Russ Zukouski; Navistar: SuperTruck – Development and Demonstration of a Fuel-Efficient Class 8 Tractor & Trailer, Vehicle	TI065; April Combs; Florida Department of Agriculture and Consumer Services/Office of Energy: Drive Electric Orlando
10:00 AM	PM061; Mike Walker; General Motors: Computational Design and Development of a New, Lightweight Cast Alloy for Advanced Cylinder Heads in High-Efficiency, Light-Duty Engines	VS081; Pascal Amar; Volvo Trucks: Volvo SuperTruck	TI066; Judy Moore; West Virginia University Research Corporation: Alternative Fuel Vehicle Curriculum Development and Outreach Initiative
10:30 AM	BREAK	BREAK	BREAK
11:00 AM	PM060; Mei Li; Ford: ICME Guided Development of Advanced Cast Aluminum Alloys for Automotive Engine Applications	VS133; Dean Deter; ORNL: Cummins MD & HD Accessory Hybridization CRADA	TI067; Andrew Klock; National Fire Protection Association: Nationwide AFV Emergency Responder, Recovery, Reconstruction & Investigation Training
11:30 AM	PM059; Rich Huff; Caterpillar: Development of Advanced High Strength Cast Alloys for Heavy Duty Engines	VS162; Vasilios Tsourapas; Eaton: Integrated Boosting and Hybridization for Extreme Fuel Economy and Downsizing	TI068; Kelly Gilbert; Metropolitan Energy Center, Inc.: Safe Alternative Fuels Deployment in Mid-America (The SAF-D Project)
12:00 PM	PM062; Amit Shyam; ORNL: High Performance Cast Aluminum Alloys for Next Generation Passenger Vehicle Engines	VS115; Brian Choe; SCAQMD: Zero-Emission Heavy-Duty Drayage Truck Demonstration	TI069; Cassie Powers; National Association of State Energy Officials: Initiative for Resiliency in Energy through Vehicles (IREV)
12:30 PM LUNCH	Lunch and Brainstorming Session		
1:45 PM	PM065; Rich Huff; Caterpillar: Development of High-Performance Cast Crankshafts	VS158; Joseph Impullitti; SCAQMD: San Pedro Bay Ports Fuel Cell Electric Vehicle Zero Emission Cargo Transportation (FCEV ZECT)	TI070; Kristen De La Rosa; ANL: EcoCAR Update
2:15 PM	PM009; Michael Lance; ORNL: Materials Issues Associated with EGR Systems	VS116; Andrew DeCandis; Houston-Galveston Area Council: Hydrogen Fuel-Cell Electric Hybrid Truck Demonstration and Zero Emission Delivery Vehicle Deployment	
2:45 PM	PM055; Michael Lance; ORNL: Biofuel Impacts on Aftertreatment Devices		
3:15 PM	PM066; Yong Wang; PNNL: Innovative SCR Materials and Systems for Low Temperature Aftertreatment		
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	PM067; Christine Lambert; Ford: Next Generation Three-Way Catalysts for Future, Highly Efficient Gasoline Engines		
4:45 PM	PM068; Yuhui Zha; Cummins: Sustained Low Temperature NOx Reduction (SLTNR)		
5:15 PM			
5:45 PM			

Thursday, June 9 - Oral Presentations

Salon	Session 7	Session 8	Session 9
8:30 AM	TV026; Terry Johnson; SNL: Development of the Hydrogen Station Equipment Performance (HyStEP) Device	ST004; Don Anton; SRNL: Hydrogen Storage Engineering Center of Excellence	FC129; Hui Xu; Giner, Inc.: Advanced Catalysts and MEAs for Reversible Alkaline Membrane Fuel Cells
9:00 AM	TV037; Michael Peters; NREL: H2 Meter Bench Marking	ST008; David Tamburello; SRNL: System Design, Analysis, and Modeling for Hydrogen Storage Systems	FC115; Bryan Blackburn; Redox Fuel Cells, Inc.: Affordable, High Performance, Intermediate Temperature Solid Oxide Fuel Cells
9:30 AM	PD133; Daniel Terlip; NREL: Consolidation Scheme	ST113; Jon Zimmerman; SNL: Innovative Development, Selection and Testing to Reduce Cost and Weight of Materials for BOP Components	FC128; Emory DeCastro; Advent Technologies, Inc.: Facilitated Direct Liquid Fuel Cells with High Temperature Membrane Electrode Assemblies
10:00 AM	TV017; Sam Sprik; NREL: Hydrogen Station Data Collection and Analysis	ST111; Guillaume Petitpas; LLNL: Thermomechanical Cycling of Thin Liner High Fiber Fraction Cryogenic Pressure Vessels Rapidly Refueled by LH2 Pump to 700 Bar	FC017; Rajesh Ahluwalia; ANL: Fuel Cells Systems Analysis
10:30 AM	BREAK	BREAK	BREAK
11:00 AM	TV027; Ben Xiong; CaFCP : Station Operational Status System (SOSS) 3.0 Upgrade	ST101; David Gotthold; PNNL: Enhanced Materials and Design Parameters for Reducing the Cost of Hydrogen Storage Tanks	FC018; Brian James; Strategic Analysis, Inc.: Fuel Cell Vehicle and Bus Cost Analysis
11:30 AM	TV033; Carl Rivkin; NREL: Brentwood Case Study	ST126; Erik Bigelow; Center for Transportation and the Environment: Conformable Hydrogen Storage Coil Reservoir	FC097; Vincent Contini; Battelle: Stationary and Emerging Market Fuel Cell System Cost Analysis--Primary Power and Combined Heat and Power Applications
12:00 PM	SA052; Robert Rosner; U of Chicago: The Business Case for Hydrogen-powered Passenger Cars: Competition and Solving the Infrastructure Puzzle	ST114; Brian Edgecombe; Materia: Next Generation Hydrogen Storage Vessels Enabled by Carbon Fiber Infusion with a Low Viscosity, High Toughness Resin System	FC098; Max Wei; LBNL: A Total Cost of Ownership Model for Design and Manufacturing Optimization of Fuel Cells in Stationary and Emerging Market Applications
12:30 PM LUNCH	Lunch and Brainstorming Session		
			Session 10
1:45 PM	SCS025; Chris LaFleur; SNL: Enabling Hydrogen Infrastructure Through Science-based Codes and Standards	ST115; Hong Li; PPG: Achieving Hydrogen Storage Goals through High-Strength Fiber Glass	MT011; Jim Petrecky; Plug Power: Ground Support Equipment Demonstration
2:15 PM	PD107; Amgad Elgowainy; ANL: Hydrogen Fueling Station Pre-Cooling Analysis	ST001; Rajesh Ahluwalia; ANL: System Level Analysis of Hydrogen Storage Options	MT013; Joe Pratt; SNL: Maritime Fuel Cell Generator Project
2:45 PM	PD134; A.J. Simon; LLNL: Cryocompressed Pathway Analysis	ST100; Brian James; Strategic Analysis, Inc.: Hydrogen Storage Cost Analysis	MT014; Kriston Brooks; PNNL: Fuel Cell Based Auxiliary Power Unit for Refrigerated Trucks
3:15 PM	PD101; Jennifer Lalli; Nanosonic: Cryogenically Flexible, Low Permeability H2 Delivery Hose		MT008; Mitch Ewan; Hawaii Natural Energy Institute: Hydrogen Energy Systems as a Grid Management Tool
3:45 PM	BREAK	BREAK	BREAK
4:15 PM	PD100; Kevin Harrison; NREL: 700 bar Hydrogen Dispenser Hose Reliability Improvement		MT017; Thomas Griffin; FedExExpress: Medium Duty Parcel Delivery Truck
4:45 PM			MT019; ; : Student Design Contest

Thursday, June 9 - Poster Presentations

6:30-8:30 PM

Electrochemical Storage Part II: EERE

ES230; Yi Cui; Stanford University: Sulfur Cathode for Lithium Sulfur Batteries
ES224; Nitash Balsara; LBNL: Simulations and X-ray Spectroscopy of Li-S Chemistry
ES106; Jagjit Nanda; ORNL: Studies on High Energy Density Lithium-Ion Electrodes
ES056; Jason Zhang; PNNL: Development of High Energy Cathode Materials
ES049; Michael Thackeray; ANL : Tailoring Spinel Electrodes for High Capacity, High Voltage Cells
ES183; Feng Wang; BNL : In Situ Solvothermal Synthesis of Novel High Capacity Cathodes
ES052; Marca Doeff; LBNL : Design of High Performance, High Energy Cathode Materials
ES231; Stanley Whittingham; Binghamton U.-SUNY: High Energy Density Lithium Battery
ES232; Vincent Battaglia; LBNL: Electrode Fabrication and Materials Benchmarking
ES222; Karim Zaghib; Hydro Quebec: Assembly of Battery Materials and Electrodes
ES071; Yet-Ming Chiang; Massachusetts Institute of Technology: Design and Scalable Assembly of High Density Low Tortuosity Electrodes
ES223; Gao Liu; LBNL: Hierarchical Assembly of Inorganic/Organic Hybrid Si Negative Electrodes
ES233; Vincent Giordani; Liox: Efficient Rechargeable Li/O ₂ Batteries Utilizing Stable Inorganic Molten Salt Electrolytes
ES234; Venkat Srinivasan; LBNL: Electrode Materials Design and Failure Prediction
ES091; Kristin Persson; LBNL: Predicting and Understanding Novel Electrode Materials From First-Principles
ES054; Gerbrand Ceder; Massachusetts Institute of Technology: First Principles Calculations of Existing and Novel Electrode Materials
ES214; Perla Balbuena; Texas A&M: First Principles Modeling of SEI Formation on Bare and Surface/Additive Modified Silicon Anodes
ES221; Xingcheng Xiao; GM: A Combined Experimental and Modeling Approach for the Design of High Current Efficiency Si Electrodes
ES220; Dean Wheeler; BYU: Predicting Microstructure and Performance for Optimal Cell Fabrication
ES225; Guoying Chen; LBNL: Design and Synthesis of Advanced High-Energy Cathode Materials
ES235; Jason Croy; ANL: Characterization Studies of High Capacity Composite Electrode Structures
ES059; Xiao-Qing Yang; BNL: Advanced In Situ Diagnostic Techniques for Battery Materials
ES085; Robert Kostecki; LBNL: Interfacial Processes - Diagnostics
ES216; Shirley Meng; UC San Diego: Optimization of Ion Transport in High-Energy Composite Cathodes
ES215; Gabor Somorjai; UC Berkeley: Analysis of Film Formation Chemistry on Silicon Anodes by Advanced In Situ and Operando Vibrational Spectroscopy
ES226; Chongmin Wang; PNNL: Microscopy Investigation on the Fading Mechanism of Electrode Materials
ES144; Jason Zhang; PNNL: Development of Silicon-Based High Capacity Anodes
ES272; Yi Cui; Stanford University: Pre-Lithiation of Silicon Anode
ES273; Nancy Dudney; ORNL: Composite Electrolyte to Stabilize Metallic Lithium Anodes
ES274; Yi Cui; Stanford University: Nanoscale Interfacial Engineering for Stable Lithium Metal Anodes
ES275; Wu Xu; PNNL: Lithium Dendrite Prevention for Lithium-Ion Batteries
ES276; Nancy Dudney; ORNL: Mechanical Properties at Protected Lithium Interface
ES277; Jeff Sakamoto; U. of Michigan: Solid Electrolytes for Solid-State and Lithium-Sulfur Batteries
ES279; Prashant Kumta; U. of Pittsburgh: New Lamination and Doping Concepts for Enhanced Li-S Battery Performance
ES280; Khalil Amine; ANL: Novel Chemistry: Lithium Selenium and Selenium Sulfur Couple
ES281; Hong Gan; BNL: Dual Functional Cathode Additives for Anodeless Li-S Battery Technology
ES282; Jun Liu; PNNL: Development of High Energy Lithium-Sulfur Batteries
ES283; Perla Balbuena; Texas A&M: Addressing Internal "Shuttle" Effect: Electrolyte Design and Cathode Morphology Evolution in Li-S Batteries
ES284; Arumugam Manthiram; U of Texas at Austin : Statically and Dynamically Stable Lithium-Sulfur Batteries
ES285; Deyang Qu; U. of Wisconsin - Madison: Investigation of Sulfur Reaction Mechanisms
ES286; Khalil Amine; ANL: Development of Novel Electrolytes for the Air Electrode
ES287; Xiao-Qing Yang; BNL: Exploratory Studies of Novel Sodium-Ion Battery Systems

Electrochemical Storage Part II: BES

BESVT001; Pradeep Guduru; Brown University: Fundamental Investigations of Mechanical and Chemical Degradation Mechanisms in Lithium Ion Battery Materials
BESVT002; Miaofang Chi; ORNL: In situ Studies of Solid Electrolyte Interphase on Nanostructured Materials
BESVT003; Tim Fister; ANL: Center for Electrochemical Energy Science (CEES): Tailored Interfaces
BESVT004; Gary Rubloff; U of Maryland: Science of Precision Multifunctional Nanostructures for Electrical Energy Storage
BESVT005; Stan Whittingham; SUNY Binghamton: Northeastern Chemical Energy Storage Center (NOCESC)
BESVT006; Esther Takeuchi; SUNY Stony Brook: Center for Mesoscale Transport Properties (m2M)
BESVT007; Nina Balke; ORNL: Fluid Interface Reactions, Structures and Transport (FIRST) Center
BESVT008; Nina Balke; ORNL: Spatially Resolved Ionic Diffusion and Electrochemical Reactions in Solids: A Biased View at Lithium Ion Batteries
BESVT009; Yet-Ming Chiang; MIT: Electrochemically-Driven Phase Transitions in Battery Storage Compounds
BESVT011; Lek-Heng Chu; U of California, San Diego: Elucidating the Determinants of Alkali Ionic Conductivity in Oxide and Sulfide Frameworks
BESVT012; Xiaowei Teng; U of New Hampshire: Transition Metal Oxides Spinel Nanomaterials for Supercapacitor Reactions
BESVT013; Sheng Dai; ORNL: Materials and Interfacial Chemistry for Next-Generation Electrical Energy Storage (partner with UT-Austin)
BESVT015; Christopher Ober; Cornell University: Transport in Confined Environments of Self-Assembled Stable Radical Polymers

BESVT016; Melody Morris; Ohio State University: Designing Efficient Nanostructured Polymer Electrolytes Using Tapered Block Polymers - Joint Experiment and Theory Effort in Controlled Interface Design
BESVT017; Sarah Tolbert; U of California, Los Angeles: Using Nanoporous Materials to Understand Kinetic Constraints in Pseudocapacitive Energy Storage
BESVT018; Jodie Lutkenhaus; Texas A&M Research Foundation: The Nature of Charge Storage in Nitroxide Radical Polymers
BESVT020; Ravi Chandran; University of Utah: Application of In Situ Neutron Diffraction to Understand the Mechanism of Phase Transitions During Electrochemical Cycling of High Capacity Mg/Si
BESVT023; George Crabtree; ANL: JCESR
BESVT024; William Chueh; SLAC National Accelerator Laboratory: Real-time Ptychography of Ion-Insertion Nanomaterials in Liquid
BESVT026; Shirley Meng; U of California, San Diego: New In Situ Analytical Electron Microscopy for Understanding Structure Evolution and Composition Change in High Energy Density Electrode Materials in Lithium Ion Batteries
BESVT027; Shen Dillon; University of Illinois at Urbana-Champaign: In-Situ TEM Observations of Degradation Mechanisms in Next-Generation High Energy Density Lithium-Ion Battery Systems
BESVT028; Jun Liu; PNNL: Molecularly Organized Nanostructured Materials
Market Transformation
MT018; Abas Goodarzi; US Hybrid: Demonstration and Deployment of a Fuel Cell-Electric Refuse Truck for Waste Transportation